ORIGINAL RESEARCH

The Hickory Project: Controlling Healthcare Costs and Improving Outcomes for Diabetes Using the Asheville Project Model

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Background: The results of the Asheville Project have shown the success of a community-based, chronic disease management model in improving clinical outcomes in patients with chronic disease while reducing annual costs of care per participant. The question arose whether other programs using a similar management model and implemented in other communities could replicate the success of the Asheville Project in improving clinical outcomes and reducing costs for patients with a chronic disease.

Objective: To assess the long-term clinical and financial outcomes of a chronic care management model for patients with diabetes, using the Asheville care management model that was successful in the management of several chronic diseases.

Study design: Longitudinal, 3-year (2007-2009), quasi-experimental, multisite, pre-/post-enrollment study.

Methods: Self-insured health plan members with diabetes agreed to meet on a regular basis (ie, an average of every 3 months) with a healthcare professional. Participants received reduced copayments on diabetes-related medications and supplies as an incentive for participating in the study. Providers utilized a web-based electronic medical record system that provided updated medical and prescription data and highlighted gaps in care based on national standards. Program providers included community pharmacists, population health management company pharmacists, and nurses at on-site clinics, trained in use of evidence-based guidelines of care. Providers assessed patients' medications, knowledge level, and lifestyle; provided patient education and goal setting; and referred patients for physician follow-up and recommendations to physicians. The majority of the encounters were face-to-face.

Results: The study included 95 plan members in the clinical cohort participating for 1 year or more, and 54 members in the financial cohort who have been participating in the program for 3 years. At the end of 3 years, the percentages of those achieving guideline goals increased from baseline to the latest follow-up included, respectively, reaching target hemoglobin A_{1c} levels, 38% to 53%; low-density lipoprotein cholesterol, 46% to 67%; systolic blood pressure (BP), 55% to 72%; diastolic BP, 60% to 71%; annual eye examination, 37% to 61%; and self-testing blood glucose, 79% to 97%. Total healthcare costs decreased by an average of \$2704 per participant per year. The program's return on investment was \$4.89 to every \$1 spent (including program costs).

Conclusion: The Hickory Project shows that it is possible to produce sustained improvements in clinical outcomes and reductions in healthcare costs for patients with diabetes using a chronic care model that provides frequent patient follow-up, a focus on appropriate medication therapy, adherence to clinical practice guidelines, and a reduction in prescription copayments for antidiabetes medications as an incentive for patients to participate in the program.

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Am Health Drug Benefits. 2011;4(6):343-350 www.AHDBonline.com

Disclosures are at end of text

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This follow-up study was conducted to determine if a previously successful, community-based, chronic disease management model, known as the Asheville Project, could be replicated in other communities in the country.

In 1997, the North Carolina Association of Pharmacists initiated a research study to determine if specially trained community pharmacists engaged in individual, appointment-based consultations with patients with chronic medical conditions could improve care and decrease healthcare costs. That study, the Asheville Project, began with a diabetes program for health plan members of the City of Asheville. It subsequently involved 8 additional employers in the community and 4 additional chronic conditions—asthma, hypertension, hyperlipidemia, and depression.

The unique aspects of this model consisted of (1) voluntary participation, (2) community-based program, (3) appointment-based patient follow-up, (4) face-to-face counseling by pharmacists and diabetes educators, (5) long-term period, (6) reduced prescription copayment incentive, (7) a focus on appropriate medication therapy, and (8) adherence to evidence-based guidelines.

In 2003, the first in a series of peer-reviewed publications on the Asheville Project was published.^{1,2} The initial publication was a 5-year study of 187 patients with diabetes.^{1,2} In 2006, the results of a 5-year study of 207 patients with asthma were published³; in 2008, a 6-year study of 620 patients with hypertension and hyperlipidemia was published.⁴ Each of these 4 studies demonstrated significant clinical and financial outcome improvements using this chronic care, community-based model.

The diabetes study showed a \$1200 to \$1872 per participant per year (PPPY) decrease in direct healthcare costs compared with baseline and significant improvements in clinical laboratory measures. The asthma study showed a \$1995 PPPY decrease in costs (direct and indirect). The results also showed a significant decrease in the rates of asthma-related emergency department visits and hospitalization (from 22 events per 100 patients annually to 3 events per 100 patients annually).

The 6-year cardiovascular (CV) study demonstrated a 53% decrease in the risk of having a CV event and a 46.5% decrease in the average cost of a CV event when it did occur. The number of myocardial infarctions (heart attacks) decreased from 23 to 6 for equivalent historical versus study time periods. Given the success of this model in one community, it was important to determine if the model could be replicated in other communities.

Research Design and Methods

In 2005, American Health Care decided to replicate

KEY POINTS

- ➤ The Asheville Project demonstrated significant clinical and financial outcome improvements using a chronic care, community-based model.
- ➤ The Hickory Project was initiated to determine if such a model could be replicated in other communities in the setting of patients with diabetes.
- ➤ In this study, the percentages of patients reaching target hemoglobin A_{1c} levels increased from 38% at baseline to 53% at 3 years; other clinical outcomes also improved, including low-density lipoprotein cholesterol and blood pressure levels, and more patients were self-testing their blood glucose.
- ➤ After 3 years, total spending on prescriptions increased by an average of \$2947 per person per year (PPPY) from baseline. By contrast, medical expenses decreased by \$6583 per participant from baseline to year 3, resulting in a decrease from baseline of an average of \$3636 PPPY in total healthcare costs.
- ➤ The conservative (nonprojected) return on investment in the Asheville Project was \$4 for every \$1 spent on the program.
- ➤ The Hickory Project adds to the growing evidence that it is possible for a chronic care management program to improve clinical outcomes and to decrease the cost of care by incorporating access to the patient's electronic medical record, patient education, and evidence-based management plan.

the Asheville model in other communities. The company, which provides clinical pharmacy services, subsequently published 2 preliminary articles on their effort with a nationwide manufacturer, 56 and this present article is an update at the 3-year point of this ongoing Hickory Project study. In a parallel and independent effort, the American Pharmacists Association Foundation also implemented a replication of the Asheville model known as the Diabetes Ten City Challenge. 7.8

The current study, the Hickory Project, is a report on the results of the first 3 years of working with Hickory Springs Manufacturing Company, which is headquartered in Hickory, NC. The company has 4500 self-funded health plan members located in more than 60 operational facilities in the United States. In collaboration with Wells Fargo Insurance Services, the employer's benefits consultant, American Health Care implemented a program for which it provided information technology, clinical administration, and outcomes reporting. American Health Care recruited, trained, and monitored the healthcare professionals, who were referred to as "intensive chronic care managers."

Participants, for whom face-to-face care management was not possible because of a lack of providers in some communities, were provided management via telephone calls. Training, tools, and guideline-based protocols were developed by American Health Care. Intensive chronic care managers received training in best practices, patient counseling, and documentation.

An enhancement of the Asheville model was the provision of an electronic medical record (EMR) system that provided guidelines of care and a complete record of all medical and prescription claims. In the Asheville Project, care managers used paper charts and did not have access to a complete medical and prescription claims history.

As in the Asheville model, participants in the Hickory Project were provided one-on-one counseling, blood pressure (BP) assessment, medication assessment, laboratory review, health knowledge assessment, lifestyle education, and goal setting. Recommendations were made to the patient's physician when deficiencies were identified. Patients were referred back to their physicians when deficiencies warranted further assessment or when therapy changes had to be considered. In this model, the physician continues to be the primary decision maker.

American Health Care's role was to (1) provide a web-based, secure EMR; (2) integrate and update all medical and prescription claims data into the EMR monthly; (3) build guidelines of care into the EMR; (4) identify the eligible population; (5) inform eligible patients of the option of having a chronic care manager, intended health benefits of the program, financial incentives, and requirements of participation (to meet with their chronic care provider as frequently as once per month); (6) ensure that the requirements for laboratory testing were followed; (7) follow up with the patient's physician; and (8) provide outcomes reporting of clinical and financial progress to the employer and health plan on a regular basis.

The intensive chronic care manager's role was to schedule sessions with patients on a regular basis (ie, an average of every 3 months) to determine if there was a treatment plan in place by their physician and to determine:

- What is the plan?
- Is the plan appropriate?
- Does the patient understand the plan?
- Is the patient following the plan?
- And, most important, is the plan working?

When the answer to any of these questions was negative, educating the patient, providing guidelines and personal goals, and referring the patient back to the physician for a change in therapeutic plan needed to be considered.

Of the manufacturer's 4500 plan members, 522 (12%) are currently participating in programs for diabetes, high BP, and/or high cholesterol levels, which is comparable with enrollment rates in the Asheville Project. This article shows the clinical outcomes of the 95 plan members with diabetes who have been participating in the program for 1 year or longer, as well as the financial outcomes of the 54 plan members with diabetes who were participating in the program for the entire 3 years (2007-2009) and for whom complete financial data were available.

The method used to analyze the data for financial outcomes was to compile, review, and tabulate all medical and prescription claims filed for the participants for 2 years before the start of the program and 3 years after the start of the program. This is reported as PPPY cost and is what the plan paid for annual care for the average individual in the program. Plan savings is reported as net plan savings and includes the costs of the program.

To calculate the return on investment (ROI), the following components were determined or calculated the:

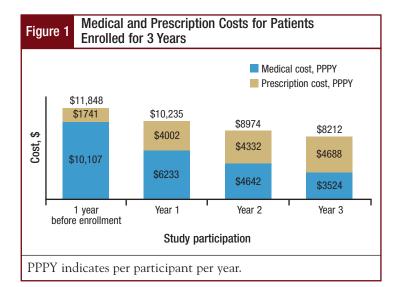
- Average annual health plan costs before the start of the program for the 54 patients who participated in the 3-year program
- Average health plan costs for each of the 3 years of the study
- Difference between the average health plan historical annual costs and the average for each of the 3 subsequent years of the study
- Average US healthcare cost trend during the 3-year study period and historical health plan costs
- Total program management costs, including administrative fees, reduced prescription copayment incentives, and care manager fees.

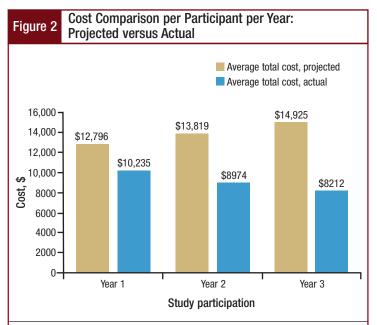
ROI was then calculated by dividing the total calculated health plan savings (baseline costs plus 8% annual trend) by the total health plan costs for the program. "Trend" refers to the participant's actual total health plan costs relative to what would have been expected if the participant's costs had tracked at an 8% trend increase.

The US healthcare trend over this time period was more than 9% (based on PricewaterhouseCoopers Health Research Institute data for this study period). We used a more conservative 8% trend based on the employer's health plan experience. Clinical data were measured at the beginning of the program and annually, and reported as baseline compared with the latest result at the end of the study period.

Primary Outcomes

The study had 2 separate primary outcomes groups—financial and clinical. Financial outcomes include (1) the participants' healthcare costs (ie, all medical and





Projected total health plan costs assuming no program versus actual observed total health plan costs. The projection cost shown was calculated from the average cost of participants for the year before enrollment (\$11,848) using a historical plan trend of 8%.

prescription claims paid by the health plan) for each of the 3 years of the program versus their historic average; (2) the participants' healthcare costs versus the national trend; (3) the participants' healthcare costs versus zero trend; (4) net health plan savings; and (5) ROI. Clinical outcomes include (1) the percentage of participants achieving the American Diabetes Association (ADA) goal of hemoglobin (Hb) A_{1c} <7%; (2) the percentage of participants with diabetes achieving the

low-density lipoprotein cholesterol (LDL-C) goal of <100 mg/dL; (3) the percentage of participants with diabetes achieving the ADA-recommended goals of systolic BP <130 mm Hg and diastolic BP <80 mm Hg; (4) the percentage of those receiving recommended annual eye examinations; (5) the percentage of patients monitoring their own blood glucose daily; and (6) the percentage of patients conducting foot self-examinations at least weekly.

Results

A total of 180 patients with diabetes were enrolled during the first 3 years of the program. Of these, 21 patients were dropped from the program for failure to keep care manager appointments, 2 decided they no longer wished to participate, and 103 lacked either a 1-year history of claims data or a full 3 years of program period claims data. A total of 95 patients were in the program for 1 year or longer. Of these, 54 patients participated all 3 years and had at least a 1-year history of claims data plus 3 years of program period claims data.

The percentage of patients who achieved the ADA ${\rm HbA_{1c}}$ < 7% goal increased from 38% at the start of the study (or at enrollment) to 53%. The percentage of patients who achieved the recommended LDL-C goal of <100 mg/dL increased from 46% to 67%. The percentage of patients achieving the recommended systolic BP goal of <130 mm Hg increased from 55% to 72%. The percentage of patients achieving the recommended diastolic BP goal of <80 mm Hg increased from 60% to 71%. Only 37% of the patients entering the study had the ADA-recommended annual eye examination in the year before the study, which increased to 61% by the end of the study.

The number of patients regularly self-testing blood glucose levels increased from 79% at baseline to 97% at the end of the study. The ROI average during the 3 years of this study was \$8.48 for every \$1 spent on the program using a trended/projected cost comparison. Applying the same approach using nontrended data resulted in an ROI of \$4.89 for every \$1 spent on the program. Both ROI calculations include all program costs.

Figure 1 shows the medical and prescription costs for the 54 individuals enrolled for the full 3 years of the study. A significant decrease in the total health plan costs from a preprogram average of \$11,848 PPPY to \$8212 PPPY by the end of year 3 was observed. Also, the percentage of health plan dollars being spent on medical costs versus prescription costs decreased from 85% to 43% by the end of year 3. Total spending on prescriptions increased considerably, by an average of \$2947 PPPY from baseline to year 3. However, medical expenses decreased by \$6583 per participant from baseline to

year 3. This resulted in a net (nonprojected) savings of \$3636 PPPY between the baseline year and year 3 and an average annual savings of \$2704 PPPY over the entire 3-year study period.

Figure 2 shows a projected cost comparison (projected vs actual) over 3 years for the 54 participants. An average healthcare cost trend increase of 8% annually, based on previous plan experience, was used for this comparison. As seen in Figure 2, the study population's costs consistently decreased relative to the projected costs. It is important to point out that the study group's costs at the start of the program were virtually identical to the national average for patients with diabetes in the United States. Therefore, a projection of 8% for the study group, at a time when the national trend was even higher (more than 9%)⁹ is a conservative approach.

Figure 3 shows the cost-savings average for the 54 participants for each of the 3 years of the study. The projected savings in the first, second, and third year were \$2561, \$4845, and \$6713 PPPY, respectively (relative to what would have been expected if their health plan costs had tracked at an 8% increase each year).

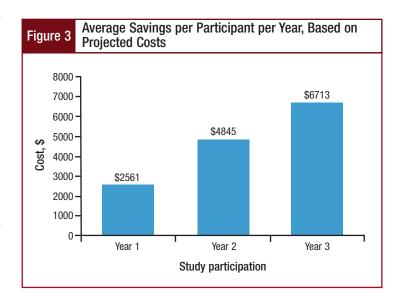
Figure 4 shows the projected annual and cumulative savings over 3 years for the 54 participants. The cumulative net health plan savings for the 3 years of the program was estimated to be \$762,426.

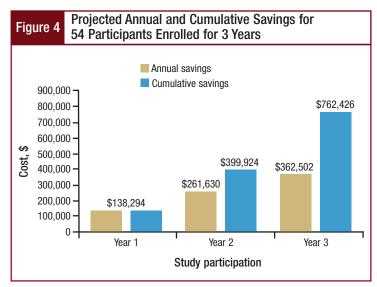
Discussion

The strengths of this study are several, including its length (ie, 3 years); its ability to confirm the results of previous studies; and the finding that at baseline the study group's healthcare costs were comparable with national norms, but the national costs were rising whereas the study group's costs were falling during the course of the study.

The need for improvement in the management of chronic illnesses was summarized in the following statement by the National Committee for Quality Assurance: "The fact that many Americans do not receive appropriate preventive care and care for chronic conditions like diabetes and hypertension, also means that annually there are thousands of preventable second heart attacks, kidney failures, and other conditions, such as painful and debilitating fractures from osteoporosis." According to national authorities, a handful of such conditions account for more than 50% of US medical costs. 11,12

Even a perfect medical plan has little value if it is not followed. Physicians caring for patients with chronic medical conditions can do all the right tests, say all the right things, and make excellent treatment plans. Researchers can produce safe and effective medications,





and national organizations can produce well-thoughtout guidelines from evidence-based studies. But if patients then do not follow the plan, take the medicine, and succeed on an individual level, the clinical outcomes will not improve on the national level.

We believe the key to successful management of many chronic medical conditions is to ensure that an evidence-based management plan is being followed, and that it is working appropriately. Traditional primary care models, however, appear to be better at formulating treatment plans than at ensuring that the plans are being followed and are succeeding, as is evidenced by the low medication adherence rates reported in the United States. Therefore, programs that provide frequent contact with patients (between physician office visits) by other healthcare professionals who are more accessi-

Table Comparison of the Asheville Project and the Hickory Project Outcomes		
Clinical target	Asheville Project: baseline vs latest follow-up, % at goal	Hickory Project: baseline vs latest follow-up, % at goal
HbA _{1c} < 7%	42%-60%	38%-53%
LDL-C <100 mg/dL	37%-58%	46%-67%
Systolic BP <130 mm Hg	Not reported	55%-72%
Diastolic BP <80 mm Hg	Not reported	60%-71%
Daily self-testing of blood glucose	Not reported	79%-97%
Annual eye examination	Not reported	37%-61%
Weekly foot examination	70%-99%	79%-97%
Cost outcomes	Asheville Project	Hickory Project
Nontrended average PPPY decrease in total health plan cost over 3 years	\$1288	\$2704
Return on investment	\$4.00: \$1	\$8.48: \$1

BP indicates blood pressure; HbA_{1c} , glycated hemoglobin; LDL-C, low-density lipoprotein cholesterol; PPPY, per participant per year.

ble and cost less than primary care visits have the potential to improve care and lower costs. The program used in our study represents such a model.

The Hickory Project adds to the growing evidence that it is possible for a chronic care approach to not only improve the quality of care for patients with diabetes but also to decrease costs. In addition, there is growing evidence that this particular chronic care model is effective. As in the original Asheville Project diabetes study,^{1,2} in the Hickory Project we observed improvements in several objective measures of diabetes care.

The percentage of patients achieving HbA_{1c} goals increased from 38% to 53%; the percentage of patients achieving LDL-C goal increased from 46% to 67%; the percentage of patients achieving BP goals increased from 55% to 72% (systolic BP) and 60% to 71% (diastolic BP); the percentage of patients having an annual eye examination increased from 37% to 61%; daily self-test-

ing of blood glucose increased from 79% to 97%; and regular foot self-examination increased from 79% to 97%.

The **Table** provides a concise comparison of the Asheville Project and the Hickory Project outcomes. Both studies observed an interesting shift in healthcare dollar spending; at the end of both studies, more dollars were spent on prescription medications and less on medical expenses. However, the savings on the medical side were significantly greater than the increased spending on prescription drugs. In both studies, the plans had historically been spending approximately \$0.80 of each healthcare dollar on medical expenses for the study patients and \$0.20 of every \$1 on prescriptions. After 3 years in both studies, this changed to \$0.40 per \$1 spent on medical expenses and \$0.60 per \$1 spent on prescription drugs. Most important, fewer dollars were being spent overall. In the present study, the prescription spending increased (by \$2947 PPPY), but this was more than offset by a \$6583 PPPY decrease in medical spending, resulting in a net savings of \$3636 PPPY at the end of year 3.

It is possible that we are observing a correlation between getting patients on more effective medication regimens and lowering healthcare costs, which is logical. Pharmaceutical manufacturers spend billions of dollars proving that their medications work, but then the medications are not consistently and appropriately prescribed, not consistently taken by patients, or not adjusted to the desired outcome. It is, therefore, not surprising that a program that emphasizes appropriate medication therapy would improve outcomes and lower costs on the medical side.

The Asheville diabetes study observed an average health plan savings of \$2951 PPPY (projected) for 74 patients during the first 3 years of study. The Hickory Project showed an even greater—\$4706 PPPY (projected) health plan savings for 54 patients during its first 3 years. Additional evidence that this model lowers healthcare costs was the \$1079 PPPY (projected) cost-savings reported in the Diabetes Ten City Challenge study.8 In all 3 studies, using similar models, impressive reductions were seen in total healthcare costs, with the current Hickory Project study reporting the greatest savings. Even if a conservative approach is used, which would assume that no increases in healthcare costs would have occurred during the 3 years of this study using routine care, the calculated savings in the Hickory Project is an average of \$2704 PPPY over the 3 years of the study.

The conservative (nonprojected) ROI reported for the Asheville Project was \$4 for every \$1 spent on the program. The conservative (nonprojected) ROI for the Hickory Project study was \$4.89 for every \$1 spent on the program, which includes all program costs.

Limitations

It is important for a pre-/postenrollment study comparison design to address the possibility that the group of patients might have experienced the statistical phenomenon known as "regression to the mean," meaning that the patient population had an extreme year before the start of the program and would have, on average, improved even without the program. To determine if this was a significant risk for this study, we calculated what the study group's mean costs were for 2 years before the start of the program. We were also able to determine the US mean healthcare costs for patients with diabetes at the time of the study. The study group's mean healthcare costs at the time the study began were not extreme relative to what they had been historically or in comparison to the national norm. The study group's historical mean cost was actually \$798 below the national average. The historical mean cost for the group for the 2 years before the program was \$10,946 annually, and the national mean at the time for individuals with diabetes in the United States was \$11,744, based on a 2007 study by the ADA.¹⁵

Selection bias is another potential risk. Individuals who were more motivated to take care of themselves might have been more motivated to enroll. Offsetting this tendency to enroll a healthier, more motivated population, patients with harder-to-control diabetes would be expected to be receiving more medications and be more motivated to enroll, because of the prescription incentive. A comparison with nonparticipants was not done. This might have further clarified if a selection bias was a factor in this study.

An additional potential design bias was the requirement to keep appointments to continue to receive the prescription incentive, which means we might have selected more compliant patients. Of the original 180 participants in the group, 21 were dropped because of failure to keep care manager appointments, and 2 decided they no longer wanted to participate, which might have affected the findings.

Another limitation is the relatively low number of patients in this study. A total of 95 patients were included in the clinical cohort and 54 patients in the financial cohort, which limits the type of analysis possible and the ability to identify unique elements of the program that contributed most to the cost-savings. The Asheville model, however, has now been studied across several communities and in more than 1000 people over a 10-year period, demonstrating consistent and favorable results for this disease management model.

A final limitation is that we were unable to determine the extent to which each of the program elements contributed to the observed clinical and financial improvements.

Conclusions

This study describes the outcomes of an approach to the management of diabetes that incorporates pharmacists and nurses, resources already available in most communities. Although these are not traditional roles, especially for pharmacists, according to our experience, when given the opportunity to be paid to provide such services, a critical mass of interested individuals are available. Also based on our experience, a growing number of health plans appear to be willing to pay for such services.

Healthcare costs continue to climb in our current healthcare system, and there are few success stories when it comes to actually controlling healthcare costs. The Asheville Project model, however, is one such success story. The Asheville model was successfully replicated by the Hickory Project for a manufacturer with multiple locations across the United States and resulted in improved clinical outcomes and significantly decreased healthcare costs for a group of patients with diabetes. It is reasonable to pursue and expand models that have shown promise in controlling healthcare costs in critical populations.

Acknowledgments

The authors wish to thank Louis Deibert and the information technology staff at American Health Care for their support in providing data analysis for this study. American Health Care Foundation provided the funding for this study.

Author Disclosure Statement

Dr Bunting, Dr Grover Lee, Dr Knowles, Dr Christine Lee, and Dr Allen have reported no conflicts of interest.

References

- 1. Cranor CW, Bunting BA, Christensen DB. The Asheville Project: long-term clinical and economic outcomes of a community pharmacy diabetes care program. *J Am Pharm Assoc (Wash)*. 2003;43:173-184.
- 2. Garrett DG, Martin LA. The Asheville Project: participants' perceptions of factors contributing to the success of a patient self-management diabetes program. *J Am Pharm Assoc (Wash)*. 2003;43:185-190.
- **3.** Bunting BA, Cranor CW. The Asheville Project: long-term clinical, humanistic, and economic outcomes of a community-based medication therapy management program for asthma. *J Am Pharm Assoc* (2003). 2006;46:133-147.
- **4.** Bunting BA, Smith BH, Sutherland SE. The Asheville Project: clinical and economic outcomes of a community-based long-term medication therapy management program for hypertension and dyslipidemia. *J Am Pharm Assoc* (2003). 2008;48:23-31. **5.** Lee GC, Mick T, Lam T. The Hickory Project builds on the Asheville Project—an example of community-based diabetes care management. *J Manag Care Pharm*. 2007;13:531-533.
- **6.** Mick ET, Lee G, Lam T. Multidisciplinary approach to disease management: preliminary findings of the Hickory Project. *Diabetes Trends*. 2007;5-9.
- Garrett DG, Bluml BM. Patient self-management program for diabetes: first-year clinical, humanistic, and economic outcomes. J Am Pharm Assoc (2003). 2005;45: 130-137.
 Fera T, Bluml BM, Ellis WM. Diabetes Ten City Challenge: final economic and clinical results. J Am Pharm Assoc (2003). 2009;49:383-391.
- 9. PricewaterhouseCoopers. Behind the numbers: medical cost trends for 2009. June 2008. www.pwc.com/us/en/healthcare/publications/behind-the-numbers-medical-cost-trends-for-2009.jhtml. Accessed May 19, 2011.
- 10. National Committee for Quality Assurance. The state of health care quality: 2004. www.ncqa.org/Portals/0/Publications/Resource%20Library/SOHC/SOHC_2004.pdf. Accessed September 16, 2011.

Continued

13. Osterberg L, Blaschke T. Adherence to medication. N Engl J Med. 2005;353:487-497.

15. American Diabetes Association. Economic costs of diabetes in the U.S. in 2007. Diabetes Care. 2008;31:596-615.

STAKEHOLDER PERSPECTIVE

Keeping a Lid on Health Plan Costs, One Patient at a Time

EMPLOYERS/HEALTH PLANS: As the country and Congress debate the course of healthcare reform, medical plan sponsors are left to tackle the problem one patient at a time.

So it goes with the Hickory Project discussed in the present article—an effort initiated by the pharmaceutical management company American Health Care (AHC) to replicate the results of a 14-year diabetes management program in Asheville, NC, and by our client, Hickory Springs Manufacturing Company, to keep a lid on health plan costs in these dire times.

When we approached Hickory Springs with the idea of removing prescription copays for plan members who agreed to meet with a diabetes health coach, Group Health and Workers Compensation Manager Tim Isenhower focused on a single statistic reported by Barry Bunting, PharmD: that none of the Asheville Project members who were enrolled in the program at the time had started kidney dialysis. Kidney failure is one of the harsh impacts uncontrolled diabetes can have. "We'll waive \$500 in copays to keep someone from a \$500,000 treatment," I recall Isenhower saying at a 2006 meeting in which Bunting talked about the Asheville Project's success.

From the onset, the management team that I work with knew they were having an impact, based on the employees who thanked them for making treatment affordable, and the early findings that $A_{\rm lc}$, low-density lipoprotein cholesterol (LDL-C), and blood pressure (BP) levels were improving. In 2008 they decided to expand.

They decided to open more clinics, use them for coaching where appropriate, and reward all participating and complying employees with lower paycheck contributions for health coverage. Smokers had to enroll in a program to quit. They were not required to quit to get the lower cost, but they had to finish the program. Likewise, employees with high

LDL-C, high BP, or diabetes had to enroll and comply to keep the lower plan cost, and—for diabetes—reduced copays.

Sure, there were complaints, but there were also good results: a 4:1 return on investment (ROI) without trending and an 8:1 ROI using a modest 8% annual medical trend. The cumulative savings estimate reported by AHC totals >\$760,000.

Crucial to this success is that the intensive care managers are not in any way an attempt to circumvent or replace the role of a patient's treating physician. Rather, they complement that role: making treatment plans relevant to a patient's busy life, making sure they comply with medication regimens, and ensuring that the treatment is working.

This model is gaining traction across the country as employers realize that following evidence-based guidelines costs less, and providers realize that following evidence-based guidelines is how they will increase their compensation. Mercer's 2010 National Survey of Employer-Sponsored Health Plans revealed that 69% of employers were offering some form of health risk assessment, with 35% of those tying completion to an incentive.

Hickory Springs supplies foam and components to the furniture industry. Their business is very competitive, and holding down health plan costs is a key strategy to staying in the game. As we look to expand on our success, we want to reach out to spouses and dependents. We may tie their participation to lower plan costs and other incentives, or devise a way to make the face-to-face sessions more convenient.

Whatever we decide, we are confident that success will come one patient at a time.

Rick Miller

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Centers for Disease Control and Prevention. Chronic disease overview: costs of chronic disease. www.cdc.gov/nccdphp/overview.htm. Accessed September 16, 2011.
 Mensah G, Brown DW. An overview of cardiovascular disease burden in the United States. Health Aff (Millwood). 2007;26:38-48.

^{14.} World Health Organization. Adherence to long-term therapies: evidence for action. 2003. www.who.int/chp/knowledge/publications/adherence_full_report.pdf. Accessed September 19, 2011.